IS 9004 : 2013

(Reaffirmed 2019)

भारतीय मानक

इमली के बीजों को बीजावरण — विशिष्टि

(पहला पुनरीक्षण)

Indian Standard

TAMARIND SEED TESTA — SPECIFICATION

(First Revision)

ICS 59.140.10

B U R E A U O F I N D I A N S T A N D A R D S
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

October 2013 **Price Group 2**

Leather, Tanning Materials and Allied Products Sectional Committee, CHD 17

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards after the draft finalized by the Leather, Tanning Materials and Allied Products Sectional Committee had been approved by the Chemical Division Council.

Tamarind (*Tamarindus indicus),* Linn. fam. *Leguminosae,* known as *Imli, Amli* (Hindi), *Hunase* (Kannada), *Chirch* (Marathi), *Puli* (Tamil), and *Chinta* (Telugu) is an item of common use in our country. The tree is large and evergreen, having rather small pink yellow striped flowers, small acid leaflets. The pods flower from February to April. The bark is dark grey and the wood is hard and heavy. It occurs in all plains, both cultivated and self-grown along roads and avenues and in villages.

Tamarind seed testa is a by-product of tamarind seed processing industry. A number of units of India are engaged in processing tamarind seeds and they are mostly located in Chenganchery in Kerala, Kakinada and Vizianagaram in Andhra Pradesh and in many other parts of India. Tamarind collection falls under minor forest produce and normally collected by tribal people in forest areas.

Tamarind seed testa, used alone, yields leather of dark colour. It is used in conjunction with myrobalan and other hydrolysable tannins in the processing of heavy leathers. Tamarind seed testa, during extraction, gives rise to problem of swelling.

Tamarind seeds are processed in two ways to obtain tamarind seed kernels and testa. In the roasting process, the seeds are first sieved and then roasted either by steam or in mild steel vessel in which sand is placed. Roasting can also be done in a drum by heating from underneath. Then the seeds are disintegrated and the kernels and testa separated. In processing without roasting, all operations are the same except that the seeds are not roasted.

This standard was originally published in 1978. In this revision, the requirement on pentachlorophenol (PCP) has been introduced keeping in view of the demand for eco-friendly inputs from the leather industry.

The composition of the Committee for formulation of this standard is given in Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 ‘Rules for rounding off numerical values (*revised*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

TAMARIND SEED TESTA — SPECIFICATION

(First Revision)

1 SCOPE

This standard prescribes the requirements and methods of sampling and test for tamarind seed testa for tanning industry.

2 REFERENCES

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

IS No.	*Title*
1640 : 2007	Glossary of terms relating to hides, skins and leather
4905 : 1968	Methods of random sampling
5466 : 1969	Methods of test for vegetable tanning materials

3 TERMINOLOGY

For the purpose of this standard, definitions given in IS 1640 shall apply.

4 REQUIREMENTS

The material shall comply with the requirements given in Table 1 when tested according to the methods prescribed in col 4 of Table 1.

5 PACKING AND MARKING

5.1 Packing

Unless otherwise agreed to between the purchaser and the supplier, the material shall be packed in moisture-proof containers, like gunny bags, suitably lined with moisture-proof paper or polyethylene film.

5.2 Marking

Packages shall be marked with the following information:

a) Name of the material;

b) Net mass of the material;

c) Supplier's name or recognized trade-mark, if any; and

d) Date of packing.

5.2.1 *BIS Certification Marking*

The packages may also be marked with the Standard Mark.

5.2.1.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standard Act,* 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

6 SAMPLING AND CRITERIA FOR CONFORMITY

6.1 Scale of Sampling

Representative samples of the material shall be drawn in accordance with Annex A.

6.2 Number of Tests

Each test sample in the set shall be tested individually for all the requirements of this standard.

6.3 Criteria for Conformity

The lot shall be declared to conform to the requirements of this standard if each test sample in the set passes all the tests.

Table 1 Requirement for Tamarind Seed Testa
(*Clause* 4.1)

Sl No.	Characteristic	Requirement	Method of Test, Ref to of IS 5466
(1)	(2)	(3)	(4)
i)	Moisture, percent by mass, *Max*	12	**6**
ii)	Non-tans[1)], percent by mass, *Max*	15	**9**
iii)	Tannins[1)], percent by mass, *Min*	2.0	**10**
iv)	*p*H of analytical strength solution, *Min*	4.0	**12**
v)	Colour:		**13**
	a) Red, *Max*	11.0	—
	b) Yellow/Red, *Min*	0.9	—
vi)	PCP content[1)], mg/kg	5	**16**

[1)] Calculated on moisture free basis.

ANNEX A

(*Clause* 6.1)

SAMPLING OF TAMARIND SEED TESTA

A-1 SCALE OF SAMPLING

A-1.1 Lot

In a single consignment tamarind seed testa collected and processed in the same period and of the same colour shall be grouped together to form a lot. A preliminary examination of all the gunny bags or containers is necessary to form homogeneous lots.

A-1.2 For ascertaining the conformity of the material to the requirements of this standard, each lot shall be considered separately. The number of containers or bags to be selected for this purpose shall depend on the size of the lot and shall be as given in Table 2. It is advisable to have lot sizes of not more than 30 tonnes.

A-1.3 The bags shall be selected at random from the lot. To ensure randomness of selection, use of random number tables (*see* IS 4905) shall be made. In case random number tables are not available, the following procedure shall be adopted for drawing the samples.

A-1.4 Starting from any bag, count all the bags in the lot as 1,2, 3, . . . , etc, up to *r* and so on where *r* is the integral part of *N/n.* Every *r*th container thus counted shall be withdrawn to constitute the samples.

Table 2 Number of Containers to be Selected for Sampling

(*Clause* A-1.2)

Sl No.	No. of Containers in the Lot	Number of Containers to be Sampled
	N	*n*
(1)	(2)	(3)
i)	Up to 25	3
ii)	26 to 50	4
iii)	51 to 150	5
iv)	151 to 300	6
v)	301 to 500	7
vi)	501 to 1 000	8

A-2 PREPARATION OF SAMPLES

A-2.1 The material shall be withdrawn from different positions of the selected bag(s). The total quantity from each bag selected shall be not less than 2 kg. The quantity drawn from each bag shall be divided into three parts, one for the purchaser, the second for the supplier and the third to be kept as a referee sample.

A-2.2 The three sets of test samples shall be kept in separate sample containers which shall be marked with relevant details of sampling.

ANNEX B
(*Foreword*)

COMMITTEE COMPOSITION

Leather, Tanning Materials and Allied Products Sectional Committee, CHD 17

Organization	*Representative(s)*
Central Leather Research Institute, Chennai	Director (***Chairman***)
A. V. Thomas Leather & Allied Products Pvt Ltd, Chennai	Shri Habib Hussain Shri K. Manivannan (*Alternate*)
All India Skins & Hide Tanners and Merchants Association, Chennai	Shri Mohan M. Sreenivas Shri S. Mohammed Hassan (*Alternate*)
BASF India Ltd, Mumbai	Shri P. R. Chaudhari Dr S. A. Nadgouda *(Alternate)*
Bata India Ltd, Hathidah	Dr Sudhir Kumar Das
Central Footwear Training Institute, Agra	Shri S. N. Ganguly Shri S. Chakraborty (*Alternate*)
Central Leather Research Institute, Chennai	Dr C. Muralidharan
Central Pollution Control Board, Delhi	Shri T. Venugopal Shri Ajay Aggarwal (*Alternate)*
College of Leather Technology, Kolkata	Dr Buddhadev Chattopadhyay Prof Swapan Kumar Basu (*Alternate*)
Consumer Federation of India, New Delhi	Representative
Council for Leather Exports, Chennai	Shri M. M. Hashim Dr Zackria Sait (*Alternate*)
Directorate General of Quality Assurance (DGQA), Kanpur	Shri G. C. Kannaujia Shri S. Chakraborty (*Alternate*)
Footwear Design & Development Institute, Noida	Shri B. S. Katiyar Shri Navendu Shekhar (*Alternate*)
Harman Sales Pvt Ltd, Mumbai	Shri H. K. Razdan Shri Jeevan Razdan (*Alternate*)
Indian Finished Leather Manufacturers and Exporters Association, Chennai	Shri Shafeeque Ahmed Shri V. P. Naimmur Rahman (*Alternate* I) Shri M. Salahuddin Bari (*Alternate* II)
Indian Footwear Component Manufacturers Association, Kolkata	Shri Mani Almal
Indian Leather Products Association, Kolkata	Representative
Indian Leather Technologists Association, Kolkata	Shri Arnab Jha Dr Gautam Mukherjee (*Alternate*)
Indian Shoe Federation, Chennai	Shri Ramesh Subramaniam Shri Abhijit Seth (*Alternate*)
Indofil Chemicals Co Ltd, Mumbai	Shri S. K. Jha
International Institute of Saddlery Technology and Export Management, Kanpur	Representative
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Khadi & Village Industries Commission, Mumbai	Shri S. Vijaya Kumar Shri R. Lawrence (*Alternate*)
Kings International Ltd, Kanpur	Shri Taj Alam Shri G. S. Kumaran (*Alternate*)
Leather Chemicals Manufacturers Association, Mumbai	Shri Vaduvur T. Srikanth Shri Sanjeev Mehta (*Alternate*)
Liberty Footwear, Karnal	Shri Adesh Gupta Shri S. S. Lahiri (*Alternate*)
Ministry of Commerce, New Delhi	Representative

Organization	*Representative(s)*
National Institute of Design, Ahmedabad	Shri Shekhar Chatterjee
National Institute of Fashion Technology, New Delhi	Shri E. Sivasakthi
Office of the Development Commissioner (MSME), New Delhi	Shri S. K. Basu Shri R. K. Kapoor (*Alternate*)
Planning Commission, New Delhi	Dr S. C. Lahiri
Robinson Sports, New Delhi	Shri S. S. Jolly
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Sports Authority of India Ltd, New Delhi	Representative
TALTEIA, Chennai	Shri Vadivelu
Tata International Limited, Dewas	Shri O. K. Kaul Shri R. G. Bhirud (*Alternate*)
The Leather Forum Calcutta for Research and Development, Kolkata	Shri Sanjoy Dasgupta Shri Prasanto Bhattacharjee (*Alternate*)
Vishnu Chemicals, Chennai	Dr P. G. Pradhan Shri C. P. C. Kamalakar Rao (*Alternate*)
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Member Secretary
Shri E. Devendar
Scientist 'F' and Head (CHD), BIS

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